

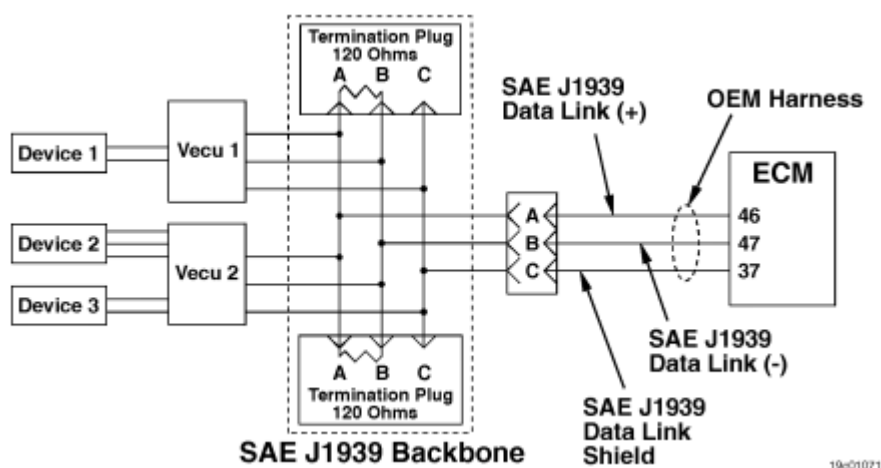
FAULT CODE 426

SAE J1939 Data Link Communication

Overview

CODE	REASON	EFFECT
Fault Code: 426 PID: S231 SPN: 639 FMI: 2/2 LAMP: None SRT:	Communication between the electronic control module (ECM) and another device on the SAE J1939 data link has been lost.	None on performance. SAE J1939 devices possibly do not operate.

SAE J1939 Data Link Circuit



Circuit Description

Devices such as ABS controllers, autoshift transmissions, ASR systems, electronic displays, electronic information systems, electronic service tools, and VECUs can communicate with the ECM over the SAE J1939 data link. Messages sent from the devices are received by the ECM and used for controlling the engine. The ECM also transmits information to these devices over the SAE J1939 data link.

Component Location

The ECM is located on the intake side of the engine, near the front. The SAE J1939 data link wiring and the SAE J1939 devices vary by OEM options.

Shop Talk

This fault occurs whenever the ECM starts communicating with any other device using the SAE J1939 data link and then can no longer transmit on the data link. Possible causes of this fault include:

- Electrical problems with the SAE J1939 data link wiring such as grounded, shorted, or open circuits

- The ECM (or another SAE J1939 device) tying up communications by sending too many consecutive messages.

Cautions and Warnings

⚠ CAUTION ⚠

To avoid damaging a new ECM, all other active fault codes must be investigated prior to replacing the ECM.

⚠ CAUTION ⚠

To avoid pin and harness damage, use the following test lead when taking a measurement:
 Part Number 3163151 - ECM bench calibration harness
 Part Number 3164185 - ECM bench calibration adapter cable.

Troubleshooting Steps

STEPS	SPECIFICATIONS
<p>STEP 1. Check SAE J1939 communication</p> <p>STEP 1A. Check for ECM communication with INSITE™</p> <p>STEP 1B. Inspect the OEM harness and ECM connector pins</p> <p>STEP 1C. Check ECM communications with the ECM bench calibration harness.</p>	<p>Does INSITE™ communicate with the ECM?</p> <p>Dirty or damaged pins?</p> <p>INSITE™ communicates with ECM?</p>
<p>STEP 2. Clear the fault codes</p> <p>STEP 2A. Disable the fault code</p> <p>STEP 2B. Clear the inactive fault codes</p>	<p>Fault Code 426 inactive?</p> <p>All faults cleared?</p>

Guided Step 1 - Check SAE J1939 communication

Guided Step 1A - Check for ECM communication with INSITE™.

<p>Conditions</p> <ul style="list-style-type: none"> • Turn keyswitch ON. • Connect INLINE™ II data link adapter to the vehicle SAE J1939 data link diagnostic connector. • Connect INSITE™ electronic service tool. 	
<p>Action</p> <p>attempt to communicate with the ecm using insite™.</p> <ul style="list-style-type: none"> • Start INSITE™ and connect to the ECM using an INLINE™ II (J1939) ECM connection. 	
<p>Does INSITE™ communicate with the ECM?</p>	<p>Does INSITE™ communicate with the ECM?</p>
<p>YES</p>	<p>NO</p>
<p>The ECM SAE J1939 data link circuit is functioning properly.</p> <p>Refer to the OEM troubleshooting and repair manual for information on troubleshooting the vehicle SAE J1939 network.</p>	<p>No Repair</p>
<p>Refer to the OEM troubleshooting and repair manual.</p>	<p>Go to 1B</p>

Guided Step 1B - Inspect the OEM harness and ECM connector pins.

<p>Conditions</p> <ul style="list-style-type: none"> • Turn keyswitch OFF. • Disconnect the OEM harness from the ECM. 	
<p>Action</p> <p>inspect the oem harness and ecm connector pins for the following:</p> <ul style="list-style-type: none"> • Corroded pins • Bent or broken pins 	

<ul style="list-style-type: none"> • Pushed back or expanded pins • Moisture in or on the connector • Missing or damaged connector seals • Dirt or debris in or on the connector pins. 	
Dirty or damaged pins?	Dirty or damaged pins?
YES	NO
Clean the connector and pins. Repair the damaged harness connector or pins, if possible.	No Repair
Go to 2A	Go to 1C

Guided Step 1C - Check ECM communications with the ECM bench calibration harness.

<p>Conditions</p> <ul style="list-style-type: none"> • Turn keyswitch OFF. • Disconnect the OEM harness from the ECM. • Connect the ECM bench calibration harness to the ECM. • Connect INLINE™ II data link adapter. • Turn keyswitch ON. • Connect the INSITE™ electronic service tool. 	
<p>Action</p> <p>attempt to communicate with the ecm using insite™.</p> <ul style="list-style-type: none"> • Start INSITE™ and connect to the ECM using an INLINE™ II (J1939) ECM connection. 	
INSITE™ communicates with ECM?	INSITE™ communicates with ECM?
YES	NO
INSITE™ is able to communicate with the ECM. This indicates that the ECM data link	No Repair

circuit is functioning properly.	
Refer to the OEM troubleshooting and repair manual for troubleshooting the vehicle SAE J1939 circuit and devices.	
Refer to OEM troubleshooting and repair manual.	Refer to the Communication Error - Electronic Service Tool or Control Device Symptom troubleshooting tree.

Guided Step 2 - Clear the fault codes

Guided Step 2A - Disable the fault code

<p>Conditions</p> <ul style="list-style-type: none"> • Connect all components. • Connect INSITE™ electronic service tool. 	
<p>Action</p> <p>disable the fault code.</p> <ul style="list-style-type: none"> • Start the engine and let it idle for 1 minute. • Using INSITE™, verify that the fault code is inactive. 	
Is Fault Code 426 inactive?	Is Fault Code 426 inactive?
YES	NO
No Repair	Return to the troubleshooting steps or contact your local Cummins Authorized Repair Location if all the steps have been completed and checked again.
Go to 2B	Go to 1A

Guided Step 2B - Clear the inactive fault codes

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<p>Conditions</p> <ul style="list-style-type: none"> • Connect all the components. • Keyswitch "ON". • Connect INSITE™ electronic service tool. 	
<p>Action</p> <p>clear the inactive fault codes.</p> <ul style="list-style-type: none"> • Erase the inactive fault codes using INSITE™. 	
<p>All faults cleared?</p>	<p>All faults cleared?</p>
<p>YES</p>	<p>NO</p>
<p>No Repair</p>	<p>No Repair</p>
<p>Repair complete</p>	<p>Appropriate troubleshooting steps</p>

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